

The CHICAGO NATURALIST



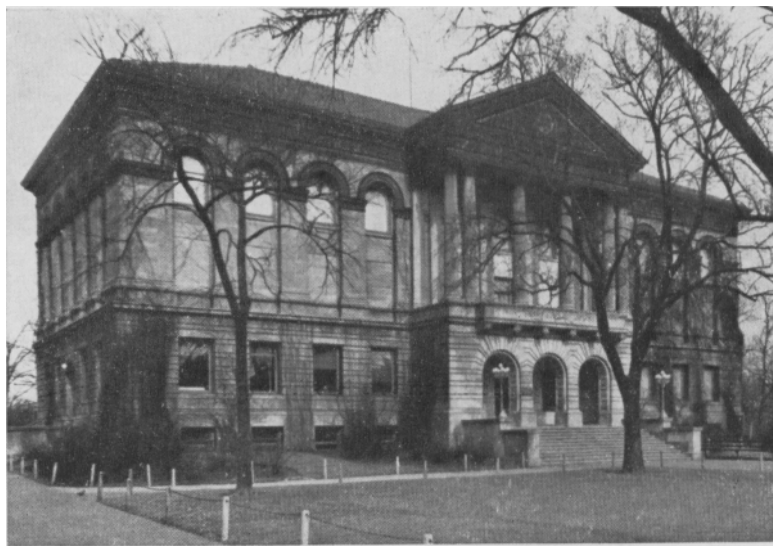
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The Chicago Academy of Sciences

Lincoln Park

Clark Street and Ogden Avenue

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Our Museum and the War

How to respond to the special needs of these troubled times and maintain normal services is the question of the moment with museums and similar institutions throughout the land. Because of decreasing incomes from all sources this question is exceedingly difficult. Those to whom is entrusted the determination of policies and procedures are re-examining their organizations, pondering the worth of customs of long standing, and attempting to balance resources against needs. Non-essentials must be stripped away, conveniences must be sacrificed, and carefully made plans for new developments laid aside until another and a better day.

Our museum staff has recently lost one of its members and at least one will enter government service in the immediate future. No replacements are being made and some of our services will be correspondingly reduced. The reading room will be open only in afternoons, extension work and educational activities outside the museum will be discontinued. The preparation of exhibits now under construction will continue as long as materials and personnel are available. The needs and requests of teachers, classes, and other visiting groups will be met as far as possible and it is planned to continue the Sunday afternoon lectures in the fall. Special exhibits (such as critical and surveillance materials, Victory Garden plans and equipment, and principles of camouflage in nature) will appear from time to time in the museum lobby.

Publications will continue at least for the remainder of the present year. The Chicago Naturalist will be reduced in number of pages and modified in other ways. Some of the features carried since its beginning may not regularly appear. Book reviews will be shorter and illustrations will be fewer but an effort will be made to maintain high standards as to content.

We trust that members and friends of the Academy will continue their loyalty and financial support.

Howard K. Gloyd, Director.



Witch Doctor-1942 Style

JONATHAN M. WILLIAMS, M. D.*

Human knowledge seems to run in cycles of application. For years a phenomenon may be known to people as a dull commonplace, only to be reborn, so to speak, in an entirely new use. In this manner many things which bring us enjoyment and health today have come from the lore of the native cultures already long established when the early Spaniards first explored this continent. Rubber, quinine, tobacco, chicle—all of these have had an economic revival far greater than they ever enjoyed in the primitive societies which discovered them. Explorers and scientists are constantly adding to this group by finding newer uses for substances known to natives for many years. Recently doctors apparently have gone far afield to enlist the services of two unusual substances in their struggle to restore health to the human body. One of these is a famous South American arrow poison and the other a Mexican fish poison.

*From the Department of Neurology, George Washington University, Washington, D.C. Photo by courtesy of Field Museum of Natural History.

The arrow poison is known as curare. For untold centuries tribes in the Amazon region have collected the leaves, bark and roots of various local bushes and in a mystic ritual have brewed a black decoction into which they have dipped their hunting arrows. The secrecy of its preparation has for years confounded the attempts of investigators to analyze and duplicate the mixture. In different localities the Indians have varied the ingredients, adding certain leaves here and leaving out other roots there until as many as seventeen or eighteen different constituents are believed to have contributed to curare's lethal properties. Botanists who have been able to trace the steps of preparation declare that the most important agent is an extract of *Strychnos toxifer* and closely related species, while the other ingredients are either inert or contribute little to the finished product.

Though known to early Spanish explorers whose experience with curare was not always impersonal, little was known of the nature of the drug until several pots were brought to France for the great physiologist, Claude Bernard, to examine. In a series of brilliant experiments, he proved that curare exerted its toxic action at the point where a nerve impulse transmits its message to a muscle for movement. So, when curare is injected, those impulses from the brain which are necessary for muscular movement go humming clown a nerve as usual, but they come to an abrupt *impasse* at the jumping-off place to the muscle, and the muscle, receiving no "instructions" fails to move or is paralyzed. Working in this manner, it is plain that curare was a boon to the inaccurate hunter who had only to nick his prey with his poisoned missile and then dog its faltering escape until it dropped, unable to move but not dead, whereupon he would dispatch it in any manner to his liking. Finally, curare to be effective must be introduced into the blood stream by a wound, for it will not produce paralysis when swallowed. Thus, food obtained through its services may be eaten with impunity.

The very same laziness that urged the Amazonian to employ curare in felling his game ran in the veins of his Mexican brother. In Mexico there grows a tree, the Coral Boom tree, whose bright vermilion seeds were crushed and strewn upon the still waters of many a hidden pool. Speedy in action, this soon brought stupefied fish to the surface. where they were gleaned by the local Ike Walton with as much ease as picking up half dollars in a dream. Analysis of these beans by an early pharmacologist, Altamirano, revealed that their action was very similar, if not identical, with that of curare. The substance responsible for this action is an alkaloid now called erythroidine after the genus *Erythrina*. Now let us turn to those fields of medicine where these curious drugs found their niche of usefulness.

In the last two decades psychiatry, it seems, has donned seven league boots to hasten its plodding steps. A soothing balm for all troubled minds is a goal as yet unattained, but one of the new methods of attack on the problems of mental disease is closely bound up with the black, sticky poison of the Jivaro. In 1935 a European psychiatrist named von Meduna found that by repeated injections of metrazol, a chemical related to camphor, into the veins of a mentally ill patient, he could produce convulsions which in some occult manner broke tip the unnatural patterns of thought that wracked the mind and tormented the bodies of the afflicted ones. But even this psychiatric empiricism seemed to obey Newton's first law, for its almost equal and unfortunate disadvantage lay in the severity of the attendant convulsion which not infrequently tore ligaments and compressed the vertebrae like an accordion. While this was rarely serious, it prolonged the convalescence and proved a discomfort and inconvenience.

More recently, a refinement of the metrazol method of treating mental illnesses has been introduced. A delicately made electrical machine has been constructed which delivers a small current for a fraction of a second through electrodes placed upon the brows of the reclining patient. So satisfactory is the stimulating shock of this new machine that doctors are turning from metrazol to electric shock as a better method of administering the jogging needed by the torpid or anguished mind of the patient. Still, this method carries with it the risk of bone and muscle strain as does metrazol, though it would seem that in sonic cases the induced seizures are a little milder.

To damp the violence of these shocks some means of restricting the muscular side effect had to be found which at the same time would not inhibit the health-giving stimulation of the brain. Science knows of many drugs which will lull the brain *and* relax the muscles admirably, but curare is the one drug which will best slacken the muscles while leaving the brain alert and receptive. One can never describe the inward trembling of the physician who first injected the potent curare into the veins of the patient who lay before him on the table ; nor can one measure the mixture of joy and fear experienced by him as he saw the eyelids droop and felt the loose, weakened grip of his patient's hand. Yet all may have shared his exultation when the injection of metrazol produced a few feeble, soft contractions of the strongest muscles and the patient awoke sound of body and on the road toward recovery.

Patients who have received the curare-shock treatments give a vivid description of the way curare feels. One tells of how familiar objects in the room first double up and then dance crazily before his eyes. His doctor's head disengages an identical member, and these

disembodied structures join the mad, capricious whirl. Slowly this *Walpurgisnacht* is shut from view by intolerably heavy eyelids. Breathing becomes a conscious effort, his head weighs tons as he tries to lift it from the pillows and his limbs feel encased in heavy, clinging mud, like one running in a dream. Then comes the fleeting sting of the metrazol in his veins and oblivion.

The physician can ascribe these phenomena to the queer selectivity of curare, which acts first to paralyze the muscles that move the eyes. When power to focus on an object is lost, the eyes roll uncontrolled and each reports its independent observation to the waiting brain. As the curare continues to work, more muscles fall under its relaxing effect. Lastly, the muscles of the chest wall and the diaphragm weaken and succumb. Curiously, metrazol and electric shock are antagonistic to curare, so that by the time the seizure is over the effect is dispelled.

Since the use of curare in conjunction with metrazol and electric shock has been started, the vertebral fractures whose incidence has been as high as forty-four per cent has dropped to almost zero! At the same time the therapeutic effectiveness of the treatments has not been appreciably altered. So, thanks to the diligence and mumbo-jumbo of the deep Amazonian witch doctor, psychiatry now may offer to its legion sufferers hope of returning to the warm world that they had loved.

The weakening effect that curare has on contracting muscles suggested that this action might favorably be put to work to aid those unfortunate children and adults who are handicapped by limbs paralyzed and stiff. This type of paralysis is collectively referred to as spastic paralysis. In children most of these cases result from injuries to the brain incurred at the time of birth. In adults the disorder sometimes follows injuries or inflammations of the brain. When this occurs, damaged brain centers no longer exercise control in fostering ease and grace of movement on the stiff and weakened muscle. When voluntary movement is still possible and the strength of the limbs sufficient, these patients go about in a slow, faltering, stiff-legged manner as if there were door checks on all their joints. Would curare or some curare-like substance help these people? Could the spastic component of these muscles be "relaxed" down to normal? Curare was tried and it worked! But the effect was fleeting--a matter of a few minutes or an hour or two at the most—and necessitated an injection. Of course the dose used in these cases is much smaller than that used with shock treatment, for complete relaxation is not desired in this instance. Since, as you recall, curare is only effective when injected, something that would work by mouth was sought by investigators. Here the curare-like properties of erythroidine, the Mexican fish

poison, which did have an effect when taken by mouth, came in for a trial. By preparing capsules of erythroidine and having the patient take some several times a day, the extraordinary stiffness of the spastic muscles is in some cases so relieved that the sufferer may walk, run, or even dance, with a facility not possible since the onset of his illness. While some sufferers derive benefit from this form of treatment, others do not.

In those cases where erythroidine is effective, patients will describe a relaxation of their tensed and tortured limbs sometimes within a half hour of taking the medicine. One girl with shaking palsy walked about stooped over like a question mark and could recognize people only by their voices or shoes. One dose of erythroidine permitted her to stand almost erect and face her friends as she had not done in years. But if no more medicine were given her, as the hours went by, she slowly drooped forward like a withering flower, until a half day later she was as she had been. When this girl had her medicine regularly, she maintained her more upright posture continuously, though it did wear off some at night.

While this example is encouraging, certain other patients failed to respond. Accordingly, chemists set to work to wring from erythroidine its secret. New and more potent derivatives were produced and tried. Some were better, some not as good. Today this work is still going on. There are many failures and a few successes. Yet each success gives greater impetus to the search for the secret of erythroidine and spasticity.

As this search goes on it is interesting to speculate where the lore of the remote aborigine will next show itself in newer forms and uses for the continued service of man.

Test your Nature Lore

I. What names are applied to the young of the following animals ?

- | | |
|----------|--------------|
| 1. lion | 6. fox |
| 2. deer | 7. leopard |
| 3. moose | 8. dragonfly |
| 4. swan | 9. goose |
| 5. fish | 10. goat |

II. True or false ?

1. All mammals are viviparous (give birth to their young).
2. Crosses between different species of animals are not successful.
3. All reptiles lay eggs.
4. All animals require the presence of a male and female for reproduction.

Answers on Page 12.



Erythronium

HARRIET STRONG

The dog's tooth violet's petals curl
Blazing back the light of noon.
Dandelion's crown of gold
In the sunshine glistening soon.

Anna M. Pratt

Sometimes people feel that it is unnecessarily foolish to learn the scientific names of plants. Aren't the common names good enough? The *Erythronium* is a good case in point. You all know it as either the yellow or white adder's tongue. The quotation above refers to the yellow. Such names are just as serviceable as the nick-names "Babe" and "Sis"—intimate among your family friends, absolutely useless among strangers. The name adder's tongue, used without any explanation, would refer to a primitive form of fern. Perhaps you prefer the term dog's tooth violet? The closed buds of the white form do resemble a dog's fangs, but the plant is absolutely not related to the violets. When the great family reunions are held, *Erythronium* meets with all the other members of the lily family. Should any true violet dare to attend, she would be met with a stare, "Why are *you* here?"

A new name was suggested by John Burroughs, trout lily, which is especially appropriate as the plants frequent the banks of streams. Some people prefer the name fawn lily, which is a little better suited to the yellow species than to the white, for there is more of the fawn color in its mottled leaf. But following the usage of scientific nomenclature, we might well retain what is good, and for the white form, say dog's tooth lily.

Children come out of the wood with bunches of these flowers crowded in tight little heads ; our artistic tastes are better satisfied with a vase containing three or four standing between their own spotted leaves. The children have done little harm ; we have destroyed the work of seven years. The seed germinates on the surface of the soil and develops a very small bulb and a single grass-like leaf. During each succeeding year a larger leaf and bulb are formed. When strong enough, the bulbs send out offshoots which develop bulblets at their tips. In this way the bulbs push deeper down into the soil, and increase rapidly in number. At the end of seven years, two leaves appear with a bud between. The plant is now old enough to bloom. We come along and pick the flower, with its two leaves, and leave nothing to make food for the underground bulbs. We have killed the plant and wasted the work of seven years.

As a child, I used to wonder how there could be such long stretches of adder's tongue leaves, and so seldom a blossom—young patches, you know, mostly single leafed. Now I understand. As soon as a plant got old enough to blossom, we—or "they"—came along and picked the flower, and often the leaves. Zipp ! Many years' growth was done for.

How interesting it would be if we could see what goes on under the ground as easily as we see the plant above ! Does the old bulb die as a new one is formed each year driving ever deeper into the earth ? Or is it a case where there is increase in size annually ? Does it continue to produce bulblets? How long could one plant live ?

Once upon a time—that is the proper way to begin a story—I was visiting with friends in Chicago Heights (Illinois), where we explored the woods up and down Thorn Creek. In an area which has since been flooded to create an artificial lake we found not far from the bank, yet not in low, wet ground, what we had come to seek—big, shining, yellow stars with vivid red-brown anthers in the centers. Such I had never seen ! In all the woods where I was acquainted, we found only white *Erythronium*—smaller than these, grayish white, with the corollas in the sunshine rolled back as tight as any Turks' cap lilies. By long and careful digging in the dry ground with an old jack-knife, digging even to a depth of eight or nine inches, we finally procured four bulbs with the long, slender, white cords that bore the water

from the roots to the surface leaves really intact, without sacrificing the lives of the others.

We returned home with our treasures, and planted them that spring of the year of Our Lord 1902, under the hard maples in our own yard. Three of the four lived. Every April there were three yellow blossoms, until time came when there were only two. Whether some vandal or some lover of rare flowers stepped the few feet from the street walk and picked, just to show his appreciation, one blossom with its leaves, I shall never know ; but one plant was dead. About the same time, a new one appeared about ten feet away, I remember, for I wondered if it were possible for bulbs to move so rapidly. I would say that it had traveled underground—walked right over. The new plant bloomed once and disappeared forever. Every spring since then, save one, two rich yellow lilies have greeted the April sun from their side of a large, rapidly spreading patch of white *Erythronium* more recently introduced.

Did the yellow never increase ? Just that once when the stranger appeared ten feet away. Somehow one seed must have matured and come to flower. With all my watching, I have never seen ripe seed ; nor even a swollen capsule notwithstanding the inducements I have offered. The flaccid ovaries become weary and lie down on the ground. One plant has been my total increase in forty years, and that for one brief season. But my knowledge has increased, for now I know the length of time the plant may live.

What about bulblets? We have come to the place where scientific names are needed. Here is a peculiar thing. Initials are used for the surnames, the generic names. Thus the yellow *Erythronium*, the most common form all through the eastern part of the United States, is *E. americanum*; the white, the best known throughout our middle states from Minnesota south to Georgia and Texas, is *E. albidum*. Both of these species reproduce by bulblets arising from the base of the corms. On the prairies of Iowa, Nebraska, and Kansas there is *E. mesachoreum*, which does not develop offshoots, but forms a new bulb below the old one each year, progressively larger than the preceding bulb, till, if you look at a five year old plant, you can see a succession of five bulbs. Stranger yet is *E. propullans*, found in rich woods in Minnesota, which, not content with either of these methods, just sends out an offshoot from a slit in its long stem.

Whatever other *Erythronium* may do, I am confident that *E. americanum* does not produce offshoots and bulblets after it has come to blossoming age ; if not that I will affirm that it does not propagate by bulblets after it has bored eight or ten inches toward the center of the earth ; or be that doubted, I will swear that mature *E. americanum*

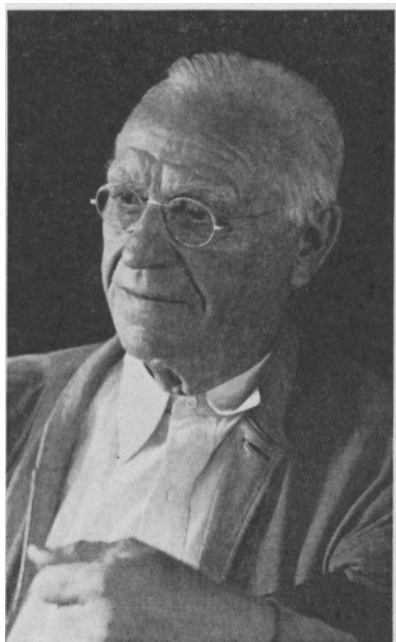
will not reproduce by bulblets in my soil, under my eagle eye, for surely forty years is time enough for any industrious, self-respecting bulblet to grow some flowers. But give we forty years more, and I will yet have it producing seed in captivity.

Just now comes word from Dr. George D. Fuller: "Last spring I found a hillside covered with them (*Erythronium americanum*) in the Forest Preserve, Chicago Heights, on the shores of Saug Lake. There were several hundred in flower at the time of the visit." So I am rejoiced to know that in improving the Forest Preserve, one of the somewhat rare stands of *Erythronium americanum* in Northern Illinois was not utterly destroyed.

Herman Silas Pepoon

1860-1941

To every naturalist in the Chicago area, Dr. Pepoon was a familiar character. The term character is used advisedly, for he was not just another person in a group; his very presence changed the group. He was born in Warren, Illinois, January 21, 1860, of George W. and Mary (Abbey) Pepoon, graduated from the University of Illinois with the class of 1881, and two years later graduated in medicine. In 1883 he married Alma A. Wilcox of Chicago (died 1893) and of this union were born three children—Rudolf S., Lucile (nurse, died in France), and Mrs. L. Constance Buckley. His second marriage (1900) was with Helen S. Foberg (died 1931).



Dr. Pepoon practiced as a physician in Nebraska and in Lewiston, Illinois, until September, 1892, when he became head of the department of botany at Lake View High School. Here he continued as teacher, school physician, and—greatest of all—"moulder of character" until his retirement in January, 1930. During this time more than ten thousand children came under his instruction.

He was a Life Member of The Chicago Academy of Sciences and Honorary Curator of Botany of that institution since 1930. The Academy published his classic reference book, *An Annotated Flora of the Chicago Area* (556 p.), in 1927. His other publications include *Studies of Plant Life*, 1900 ; *Representative Plants*, 1912 ; and many articles on botany, forestry, and ecology in scientific journals.

For many years he was active in the Illinois State Academy of Science as chairman of the botany section, as vice-president in 1914, and as treasurer in 1916 and 1917.

One of the major interests of his life concerned the preservation of Apple River Canyon as a state park. In this region he spent his youth and later identified and collected more than five hundred species of plants in the canyon area, among which was that most remarkable find, the dwarf Canadian primrose, *Primula mistassinica* Michx.

In his work for the Illinois Natural History Survey he traveled throughout the state collecting, recording, and cataloging the plants. His contributions will help to make possible, at some future date, the preparation of an accurate manual of the plants of Illinois.

If we measure greatness in teaching by the change brought forth in the learner, Dr. Pepoon was one of the greatest teachers this country has produced. Each of his ten thousand students has felt his influence ; his buoyant spirit changed work from drudgery to joyous effort.

V. O. Graham.

Test Your Nature Lore

Answers to questions on page 7,

I. 1. cub; 2. fawn; 3. calf; 4. cygnet; 5. fry or fingerling; 6. pup; 7. kitten; 8. nymph; 9. gosling; 10. kid.

II. 1. False. The duck-billed platypus of Australia lays eggs which later hatch much as do those of birds.

2. False. Crosses between related species may produce offspring and in some cases these offspring are fertile although they are usually sterile.

3. False. In some snakes (e.g., rattlesnakes, garter snakes, and others) and in some lizards the eggs do not leave the body but remain there until they "hatch" and the young are "born." This condition is termed ovoviviparity.

4. False. Parthenogenesis, the production of young from unfertilized eggs, is found in many groups of invertebrate animals. For example, during certain times of the year there are no male aphids—females produce young from unfertilized eggs.

Museum Activities



"Hollywood" Comes to the Academy

May 1 was "moving day" at the Academy, but not the kind of moving that affected thousands of homes in the Chicago Area. On that day the Atlas Educational Film Company, of Oak Park, Illinois, moved in and started filming various scenes in the Academy's Museum. These motion pictures are to be a part of a seven reel film entitled "Background for Tomorrow," the first big feature length picture produced especially for the schools. The film will dramatize and make available to millions the vast store of learning, cultural and mechanical achievement in six of Chicago's most noted educational institutions. The following museums will be represented: The Museum of

Science and Industry, Field Museum, Oriental Institute, Chicago Historical Society, Art Institute, and the Chicago Academy of Sciences.

In addition to an exterior view of the Academy, a visit to the Director's office, and several scenes in the main exhibit hall, the picture will take the audience behind the scenes to see how habitat groups are constructed. The process of preparing celluloid leaves and installing them in an exhibit was photographed in detail.

"Background for Tomorrow" will be shown through the agencies of schools, churches, parent-teacher associations and other institutions and organizations of kindred purpose.

Annual Meeting

The eighty-fifth annual meeting of The Chicago Academy of Sciences was held on Monday evening, April 13, in the Academy Auditorium. After the President's address of welcome and the reports of the Secretary, Treasurer, and the Director of the Museum, the tellers announced the results of the annual election, balloting having been done by mail as provided in the Constitution. The officers elected for the current year are as follows: President, Dr. Nathan Smith Davis; First Vice-President, Tappan Gregory; Second Vice-President, Dr. Verne O. Graham; Secretary, Alton S. Windsor. Henry S. Henschen was re-elected a Trustee for a term of six years and Drs. John R. Ball and James P. Simonds were re-elected as Scientific Governors for terms of three years.

The Eighty-fifth Annual Address, "The Modern Naturalist and Society," was delivered by Dr. Alfred E. Emerson, Professor of Zoology at the University of Chicago, and member of the Board of Scientific Governors of the Academy.

On February 21, Dr. Hatfield took part in an interview radio broadcast of Station WBBM on the Book Worm program. The subject discussed was winter feeding of birds. Participating were the Chicago Public Library, the Chicago Park District and the Academy.

It is with deep regret that we report the death of two members of the Academy; on April 7, Dr. Harold H. Hayes, president of the Wm. I. Lyon Bird-banding Council and of the Inland Bird-banding Association, and on May 7, Dr. Frank C. Baker, Curator of the Academy from 1894 to 1908 and since that time associated with the University of Illinois.

New Technical Publications

Five additional numbers of Volume 6 of the *Bulletin of the Chicago Academy of Sciences* have been issued during recent months. Number 5, *Gomphus subapicalis* Williamson, a Synonym of *Gomphus lentulus* Needham (Odonata), and Number 6, The Identity of Three Geographically Misplaced Species of Odonata, by Leonora K. Gloyd, Honorary Curator of Insects of the Academy; Number 7, The Subspecies of the Spade-nosed Snake, *Sonora occipitalis*, by William H. Stickel of the U.S. Fish and Wildlife Service; Number 8, Mammals from South-Central Arizona, by Donald M. Hatfield; and Number 9, The Ecology of the Spiders of the Xeric Dunelands in the Chicago Area, by Donald C. Lowrie.

Any or all of these papers may be obtained without charge by active members of the Academy upon request. A supply of each is available for sale at a nominal charge.

Bird-banding Conference

The Second Annual Chicagoland Bird-banding Conference, sponsored jointly by the Academy and The Wm. I. Lyon Bird-banding Council was held at the Academy on Saturday, March 14, 1942. The conference was very successful and more than 300 people attended. Fifteen papers were presented during the meetings in the morning, afternoon, and evening. A banquet was held at the Parkway Hotel between the afternoon and evening sessions.

Dr. Hatfield attended the annual meeting of the American Society of Mammalogists, held at the American Museum of Natural History in New York City, March 31-April 4. There he presented a paper dealing with Illinois mammals.

New Members

At a joint meeting of the Trustees and Scientific Governors, March 16, 1942, Dr. Orlando Park, Associate Professor of Zoology at Northwestern University, was elected to Life Membership in the Academy and appointed Honorary Curator of Zoology. Dr. Charles E. Behre, Jr., formerly of Northwestern University and now Professor of Geology at Columbia University, was elected to Honorary Membership. Frederick Gibson, Director of the Boyce Thompson Southwestern Arboretum, Superior, Arizona, Edwin V. Komarek and Roy Komarek of Thomasville, Georgia, were elected to Life Membership.

Other members elected at this meeting are as follows:

Lift: Felix Gehrman

Sustaining: C. R. Merrifield

Associate: Terzo P. Amidei, M. J. Ballastro, Mrs. E. Drage Browne, George Douaire, W. F. Durno, Joseph Gelin, William Head Gray, Eldred E. Green, Dr. Harold H. Hayes, J. W. Hudson, Jerome Isenbarger, Mrs. K. U. Isenbarger, Richard Klein, Miss Margery Morrison, Hugh Redmond, Dr. Joseph E. Semrad, Mrs. B. L. Sever, Mrs. Jeannette Sheridan, Sister Mary Ellen O'Hanlon, Bert Sommers, Mrs. Paul Starrett, Paul Starrett, Jr., Reverend Frederick R. Stenger, Eliot C. Williams, Sr., R. O. Witcraft, and William Zander.

Donald C. Lowrie, for several years a member of the Museum staff, was awarded the degree of Doctor of Philosophy by the University of Chicago at the Spring Commencement exercises. Dr. Lowrie's major work was done in the Department of Zoology. His doctoral dissertation was published as Number 9 of Volume 6 of the *Bulletin*, "The Ecology of the Spiders of the Xeric Dunelands in the Chicago Area."

Lectures

The annual winter series of Free Sunday Afternoon Lectures, January 11 through March 15, was the most successful series in a long time. A total of 3155 people attended the ten lectures, most of which had to be given twice because of the large crowds.

Alfred M. Bailey, former Director of the Academy's Museum and now Director of the Colorado Museum of Natural History, gave a lecture entitled "Color in the Southwest" on Wednesday, April 15, 1942. The lecture, which was sponsored by the Illinois Audubon Society, was illustrated with Kodachrome motion pictures.

The Burnham Astronomical Society, a group of amateur astronomers, held their regular April meeting at the Academy on Thursday evening, April 16. On Sunday, April 19, Dr. Frank Hancock, president of the society, gave an illustrated lecture, "The Outer Planets," in the Academy Auditorium.

Lobby Exhibits

The exhibit of raw materials important in the war effort was held over until April 1 because of its timely interest. The current lobby display deals with Victory Gardens. One case contains various tools which are used in starting and maintaining a garden. The other contains a sample plot of a garden planned by C. E. Hewitt of the Lincoln Park Conservatory. This plan was made especially to meet the conditions of gardening in and near Chicago and suggests the types of vegetables which will grow best in this region.

Dr. Nathan Smith Davis, President of The Chicago Academy of Sciences, was recently re-elected President of the Geographic Society of Chicago.

Field Work

In connection with a cooperative study of the amphibians and reptiles of Illinois by the Academy and the State Natural History Survey, Dr. Gloyd spent the week of April 18-25 collecting specimens in southern Illinois. Accompanying him were Walter T. Stille, Jr., and Richard A. Edgren, Jr., members of the Amateur Herpetologists' Club of Chicago. Among the especially interesting localities visited were Wolf Lake, Horseshoe Lake, the "rattlesnake canyon" and the Pine Hills area southwest of Murphysboro.

During the two days spent near Murphysboro the party was joined by Lendell Cockrum and Collan Hill of the Southern Illinois State Normal University, Carbondale.

After visiting the limnological laboratory of the Natural History Survey at Fox Lake, near Charleston, the group participated in the Annual Spring Nature Tour at Starved Rock State Park, Saturday, April 25. Dr. Gloyd conducted a field trip in the afternoon and showed the Academy's film *Reptiles of the Arid Southwest* at the evening meeting.

Notes from the field

Forbs of a Relict Prairie Within the City Limits of Chicago

The city block whose northeast corner is the intersection of Neenah and Foster Avenues in Chicago has an abundance of forbs of the original prairie which are now rare within or near the city. Whatever the history of this area and that adjacent to it on the south

and west, the plants now present indicate that it has never been cultivated or over-grazed.

The soil of this low prairie is so poor and thin that it has been robbed of only one load of earth. Drainage is superficial for, although it is not under water in spring, it is not much higher than the marshy land to the east and south. Characteristic of such a habitat are *Eryngium yuccifolium*, *Silphium terebinthinaceum*, *S. laciniatum*, *Liatris spicata*, and *L. scariosa* which are present in showy abundance. These are common in the region. *Desmodium canadense*, *Prenanthes racemosa*, and *Potentilla arguta* may also be found on railroad embankments not far away. *Viola pedatifida*, *V. sagittata*, and *Aster azureus* fit also in this prairie picture. The real rarities of the present time and place are *Amorpha canescens*, *Cacalia tuberosa*, and *Parthenium integrifolium*. The first is very nearly absent until we reach the Waukegan Dunes, the second is unusual hereabouts, and the last is infrequent.

The next block to the south is bordered with Canada thistle and other coarse weeds of a soil disturbed by grading operations and rubbish. Beyond this rank growth lies the old marshy prairie, soggy in springtime and dotted with *Valeriana edulis*. *Hypoxis* and *Sisyrinchium* are abundant and on the hummocks there are specimens of *Petalostemum purpureum* whose ancient roots are an inch in diameter.

The land rises westward in a ridge running north and south. This originally was drained by a diagonal winding draw that emptied into the lowland near Foster Avenue. In 1939 there were several *Cirsium Hillii* and *Baptisia bracteata* plants in this upland prairie. The block was burned over in 1940, the draw filled with debris and where houses did not spring up, brambles did. It must already be said of this last-mentioned collecting ground that "the station has since been destroyed."

—Anna Pedersen Kummer

naturalist's Book Shelf

THE AMERICAN AND HIS FOOD

By Richard Osborn Cummings

The University of Chicago Press, Revised Edition, Chicago, 1941, 291 pages. \$2.50.

This book tells of the changes that have taken place in the American dietary since 1789 and of their effects on the nutrition of the people. It shows why it is that so much stress is now being placed on the need for a diet containing adequate amounts of amino acids, vitamins and minerals and a proper ratio between fats, carbohydrates and proteins. Any who question the need for the dietary reform advocated by the Food and Nutrition Board of the National Research Council should study this book.

—N. S. Davis

A LOT OF INSECTS

By Frank E. Lutz

G. P. Putnam's Sons, New York, 1941, 250 pages. Illus., appendix, index. \$3.00.

Dr. Lutz, Curator of Insects at the American Museum of Natural History, has for many years studied the insects which visited his back yard. In this extremely interesting volume he tells of his experiences in a pleasing and informative way. Since he started his studies he has recorded 1402 different species of insects in his lot, which measures 72x200 feet.

The book is a record of observations on the natural history of the insect visitors and also of the results of numerous interesting experiments which the author has performed in his back yard and basement. One of the most valuable aspects of his presentation is the very good case which he builds up in favor of the insect. To a great many people, all insects are pests which should be eradicated. A

few hours with this volume should convince even the most skeptical that it would certainly be a bad day for the world if all insects were suddenly to disappear.

Throughout the book excellent photographs and line drawings illustrate the insects of which the author writes and the results of some of his ingenious experiments. References to an appendix of 43 pages lead the reader to citations of, and quotations from, original sources should he desire further information on some of the many objects so ably presented.

—E. C. Williams, Jr.

FATAL PARTNERS

WAR AND DISEASE

By Ralph H. Major, M. D.

Doubleday, Doran, and Company, Garden City, New York, 1941, 324 pages. \$3.50.

Dr. Major traces the history of war and disease, showing in a startling manner how these two of the famous "four horsemen" are truly partners. In every war since the dawn of history there have been more casualties as a result of disease than from actual combat. The opportunities for the practice of surgery are obvious and much important knowledge has been gained from the experiences of army surgeons. The enormous epidemics associated with wars have offered great problems to the physicians and many of them have been solved. The conquering of malaria, for example, was a direct result of the difficulties encountered by the U. S. Army in Cuba during the Spanish-American War. Modern nursing stems from the work of Florence Nightingale in the Crimean War. These are but a few examples taken from many in this interesting and well-written volume.

—E. C. Williams, Jr.

BIRDS IN YOUR BACKYARD

By Virginia S. Eifert

Illinois State Museum, Springfield, Illinois, 1941. Popular Science Series, Vol. II., 238 pages, 91 illustrations index. 10.60.

As stated in the Introduction, this is ". . . a series of word and brush impressions of the birds of Sangamon County, Illinois, Central Illinois, and the Illinois State Museum . . ." It includes full instructions on building feeding stands, lists of birds to be seen in Springfield, an excellent practical bibliography, a diary of bird life through the year, and a check list of birds of Sangamon County. The main part of the work consists of full page reproductions of black, white and grey watercolors of 91 birds, each with a short comment on habits and general appearance. On the whole, the drawings are good, although some are poorly proportioned and seem to reflect a lack of knowledge concerning the anatomy of the birds themselves. The drawing of the belted kingfisher, for instance, looks a good deal more like a kookaburra than a kingfisher. However, these are but minor objections; the principal identifying characters are well shown, and for the beginning bird student in Illinois the book will prove invaluable.

—D. M. Hatfield

THE MICROBE'S CHALLENGE

By Frederick Ebersson

The Jacques Cattell Press, Lancaster, Pennsylvania, 1941, 354 pages. 13.50.

This is a non-technical story of the war against microbes. It recounts what has been accomplished in the fight against bacterial, virus and other parasitic infections and emphasizes the need for eternal vigilance to maintain the gains that have been and may be won over these infinitesimal foes of mankind.

—N. S. Davis

ON SAFARI

By Theodore Waldeck

The Viking Press, New York, 1941. 208 pages, numerous illustrations. \$2.50.

To all appearances, this book constitutes the autobiography of a big game hunter in Africa, a sort of life history of an expedition man. Starting when he was eighteen years old, Mr. Waldeck has taken part in many expeditions to Africa and the twenty-three chapters present highlights from some of these. Some record isolated happenings such as his first experiences with a honey bird and an amusing bit entitled "The Neighborhood 'Character' " concerning behavior of a male baboon. Mr. Waldeck tends frequently to become anthropomorphic in his writing, but his style is refreshing.

The high points of the book, to me, are first, his description of a Coptic holiday in a Galla village, and second, his encounter with a water buffalo. The latter has all the rocking suspense of a Stuart Cloete episode. Picture Mr. Waldeck up a tree in his underwear, fishing with a safety pin and some fishline, for his revolver on the ground, while a vicious buffalo charges about waiting for him to come down.

A very entertaining and readable book. Especially good, I believe, for all who enjoy a good adventure yarn.

—D. M. Hatfield

WORKING WITH THE MICROSCOPE

By Julian D. Corrington

Whittlesey Pouse, Mc Craw Hill Book Co., Inc., New York, 1941. 418 pages. 13.50.

This volume will be of interest to all who want to learn something of the science of microscopy. Directions are given for the use of the microscope and for the preparation of materials for study. Excellent illustrations enhance the value of the book and a comprehensive index serves to make it more useful as a reference manual.

THE CHICAGO NATURALIST

DR. WOOD, MODERN WIZARD OF THE LABORATORY

By William Seabrook

Harcourt, Brace and Company, New York, 1941. xiv--335 pages, 15 illustrations. £3.75.

Combination gadgeteer, world famous physicist and detective, Doctor Wood epitomizes the go-getting, fun-loving way of life which we fondly believe to be typically American. It is unfortunate that there are not more like him, for if there were, the combined inventive genius might shortly have us flying about like Superman. I have never read a more engrossing biography; Seabrook's breezy style coupled with Wood's breezy life make a particularly happy combination. For anyone who has ever wondered about sound, light and chemicals and has had the urge to experiment with them, the book will be intensely interesting; not a single one of the 335 pages can be called dull. Doctor Wood seems to have experimented with almost everything even remotely connected with the natural sciences; in his direct approach to a problem he reminds one a little of Kettering. An ordinary human being stands a little in awe of either.

—D. M. Hatfield

MAN—THE MECHANICAL MISFIT

By G. H. Estabrooks

The Macmillan Company, New York, 1941, 251 pages. £2.50.

This work presents the views of the author who believes that the assumption of the erect stature in human beings has made natural selection less and less effective and has caused man to breed back into the species weaknesses that make him unfit for survival. Medical science furthermore has learned to keep weaklings alive to propagate their weakness. He does not appreciate the fact that science is learning how to make weaklings propagate stronger and healthier offspring.

—N. S. Davis

THE PIGEON

By Wendell Mitchell Levi

R. L. Bryan Company, Columbia, South Carolina, 1941, 512 pages, numerous drawings and photographs, two colored plates. 8 1/2 x 11 1/4. £10.00.

Here is a monographic study and compilation of data concerning pigeons which stands virtually alone in its field. After reading the 512 pages, one is led to wonder what more can be said about the bird. Chapters cover breeds and varieties, anatomy, physiology, genetics, practical breeding, behavior, diseases and parasites, feeds and feeding, housing, squab production, and pigeon fancy. There are many photographs—rarely less than one per page and often three or four.

Mr. Levi has an infectious enthusiasm about pigeons which cannot help but communicate itself in part to the reader of his book. Whether said reader will go right out and buy some pigeons will probably depend on whether the great mass of information here given on their care, etc., convinces him (as it did me) that pigeons are not for mere mortals.

The style of the book is encyclopedic, with two columns to the page. There is an excellent preface by Oscar Riddle and a bibliography of fourteen pages.

—D. M. Hatfield

NOTE

All books which are reviewed in *The Chicago Naturalist* are placed in the Reading Room at the Academy and are readily available for all who might like to read them. It is our policy to review books directly applicable to natural history and closely related fields. We would appreciate the comments of our readers on the value of this section of the *Naturalist*.

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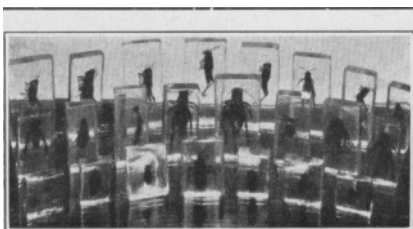
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